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**From:** Steeger, Thomas [Steeger.Thomas@epa.gov]  
**on behalf of** Beekill [Beekill@epa.gov]  
**Sent:** 12/16/2021 12:03:21 AM  
**To:** Steeger, Thomas [Steeger.Thomas@epa.gov]  
**Subject:** Fw: Michigan bee kill investigation results

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**From:** Baumgartner, Donald <baumgartner.donald@epa.gov>  
**Sent:** Wednesday, December 15, 2021 3:05 PM  
**To:** burkmanc@michigan.gov <burkmanc@michigan.gov>; Beekill <Beekill@epa.gov>  
**Cc:** Verhougstraete, Brian (MDARD) <verhougstraeteb@michigan.gov>  
**Subject:** RE: Michigan bee kill investigation results

Thanks Caitlin for copying us on your State bee kill reports to EPA HQ.

Welcome back to work after an absence. I know that Brian and we missed you.

*Donald*

Donald Baumgartner, B.S., M.S. Medical Entomologist  
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For pesticide information visit <http://www.epa.gov/pesticides/> or <http://npic.orst.edu/>  
R5 Bed Bug Hotline at 888/644-2200 or [bedbugs@umn.edu](mailto:bedbugs@umn.edu)  
To report environmental violations visit <https://www.epa.gov/pesticide-incidents>  
Life Lesson: We do not stop playing because we grow old; we grow old because we stop playing.  
Have a Bed Bug Free Day!!

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**From:** Burkman, Caitlin (MDARD) <BurkmanC@michigan.gov>  
**Sent:** Wednesday, December 15, 2021 1:52 PM  
**To:** Beekill <Beekill@epa.gov>  
**Cc:** Baumgartner, Donald <baumgartner.donald@epa.gov>; Verhougstraete, Brian (MDARD) <verhougstraeteb@michigan.gov>  
**Subject:** Michigan bee kill investigation results

Good afternoon,

I am including three MDARD reports of bee kill or exposure investigations from this past summer. I have just returned from maternity leave this week which is why there has been a delay in our reporting. In none of these investigations could we determine the exact source of the pesticides detected and/or whether they resulted in the bee deaths, but due to the detection of pesticides on the collected bees I am forwarding along. Please let me know if you need any report attachments.

**Case 21-PE-01501**

This commercial beekeeper reported large numbers of dead and dying bees at four different sites (each located several miles apart) in June, which was first confirmed by Michigan State University Bee Informed Partnership. This did not appear to be related to one specific application; exposure during foraging was most likely. Beekeeper reported in August that the hives had recovered and larvae did not appear to be affected.

- Location: Emmett Township and Brockway Township, St. Clair County, Michigan
- Date of incident: Beekeeper noticed bee death on 6/1/2021.
- Date reported to MDARD: 6/1/2021
- Species affected: honeybees, 76 hives apparently affected out of 96 at 4 separate sites
- Suspected pesticide(s): clothianidin
- Whether the pesticide(s) was/were in use at the time of the loss: could not be determined
- Crop/area on which pesticide was applied: could not be determined
- Whether residues were detected: Yes, the following active ingredients were detected on at least 1 of 4 bee samples – atrazine, bifenthrin, clothianidin, iprodione, pyraclostrobin, s-kinothrene

**Case 21-PE-02057**

This beekeeper had recently moved to his new property and suspected that the observed dead bees could have been affected by applications from the surrounding blueberry fields. Presence of varroa mite was noted and could explain the observed deformed wings. Neighboring blueberry fields did not appear to have attractive foraging flowers when observed by inspectors. Within a few weeks the beekeeper reported the hives appeared to have recovered.

- Location: Muskegon, Muskegon County, Michigan
- Date of incident: Beekeeper noticed bee death on 7/8/2021.
- Date reported to MDARD: 7/12/2021
- Species affected: honeybees, approximately 3 of 35 hives affected
- Suspected pesticide(s):
- Whether the pesticide(s) was/were in use at the time of the loss: could not be determined but beekeeper reported using oxalic acid
- Crop/area on which pesticide was applied: could not be determined
- Whether residues were detected: Yes, the following active ingredients were detected on the bees – bifenthrin, captan, malathion, phosmet

**Case 21-PE-02272**

This beekeeper observed a nearby aerial application and believed it resulted in the subsequent observed bee deaths on his property approximately a quarter mile away in an asparagus field. He did not directly observe drift. The applied products' active ingredients were detected on the sampled bees, but we could not definitively determine they caused the deaths. Bees were observed foraging by inspectors in the treated area a few days after application.

- Location: Kaleva, Manistee County, Michigan
- Date of incident: Aerial application observed on 7/16/2021 and beekeeper noticed dead bees next day.
- Date reported to MDARD: 7/19/2021
- Species affected: honeybees, approximately 100 dead bees from 1 hive
- Suspected pesticide(s): Products applied by applicator were Carbaryl 4L, Echo 720, and Tenkoz Permethrin 3.2EC
- Whether the pesticide(s) was/were in use at the time of the loss: Yes
- Crop/area on which pesticide was applied: asparagus
- Whether residues were detected: Yes, the following active ingredients were detected on the bees – carbaryl, chlorothalonil, permethrin

**Caitlin Burkman**, Pesticide Enforcement Program Specialist  
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